

Flu Watch

South Carolina's Weekly Influenza Surveillance Report
South Carolina Department of Health and Environmental Control
Division of Acute Disease Epidemiology

<http://www.scdhec.gov/health/disease/acute/flu.htm>



Week Ending November 14, 2009 (MMWR Week 45)

Highlights:

Influenza Activity Level: Regional

Note: Activity level definitions are found on page 14

ILI Activity Status (HHS Region 4 ILI baseline is 2.0%*): Below baseline in the Upstate (1.07%) and Midlands (1.90%), and above baseline along the Coast (4.06%). State ILI is 2.32%, a decrease from the previous week. These data reflect reports from 23 (28%) providers.

Note: See map of counties on page 3 for regional descriptions

SC Viral Isolate and RT-PCR Activity: During the past MMWR (45) week, 47 positive specimens were reported. Since October 4, 2009, 310 specimens tested by our Bureau of Labs (BOL) have been positive for influenza. A total of 230 positive specimens have been reported by other labs.

Positive Rapid Flu Test Activity: There were 978 positive tests reported.

Hospitalizations: 56 hospitalizations were reported. Since September 1, 2009, 756 hospitalizations have been reported.

Deaths: 6 deaths were reported. Since September 1, 2009, 35 deaths have been reported.

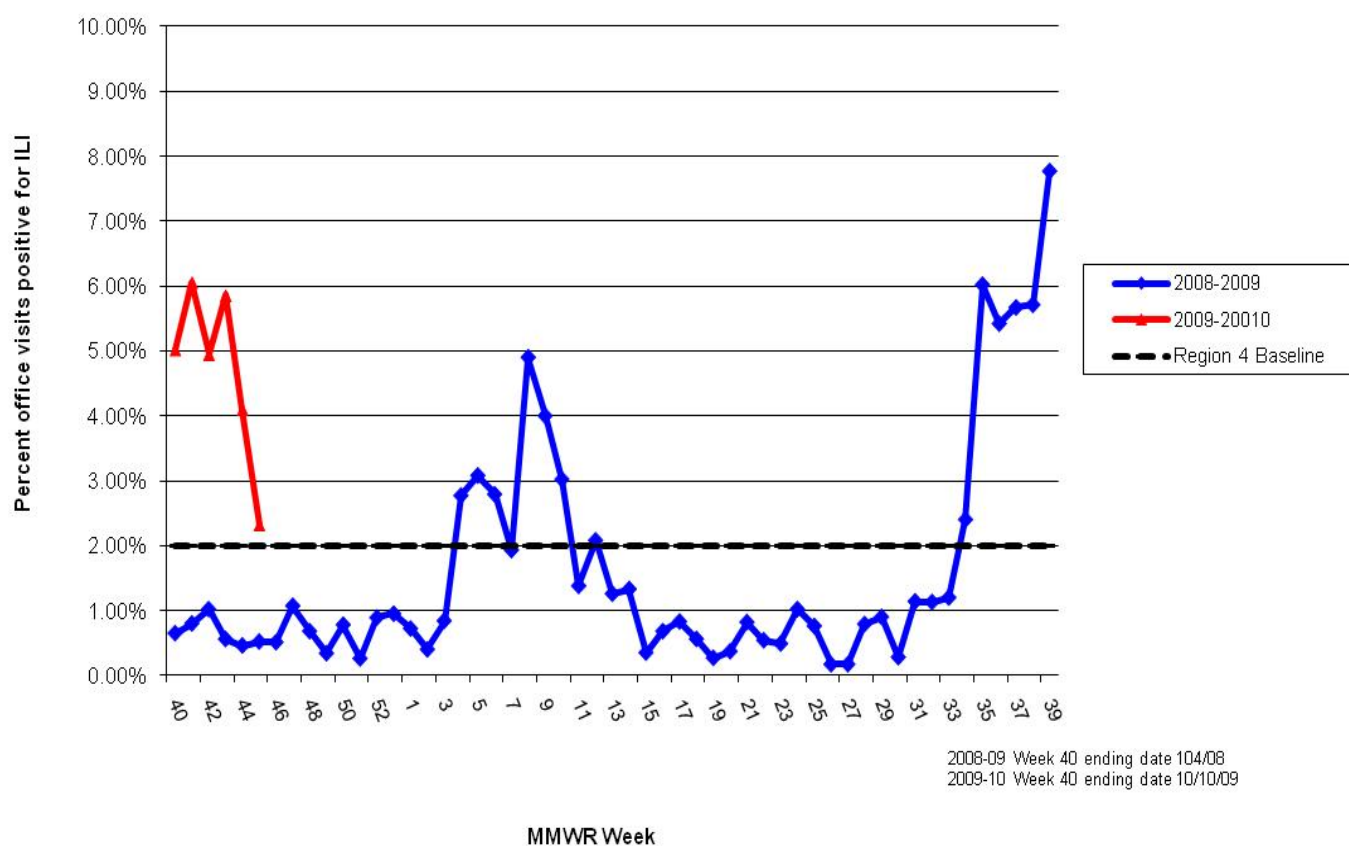
In this issue:	
	Page
I. ILINet Influenza-Like Illness Surveillance <ul style="list-style-type: none">Graph of ILI comparing 08-09 and 09-10 seasonsTable of ILI % by county, current MMWR weekILI by geographic region	2
II. Virologic surveillance <ul style="list-style-type: none">Table of confirmed culture and RT-PCR tests, current MMWR weekTable of confirmed culture and RT-PCR tests, year to dateTable of confirmed culture and RT-PCR tests by county, year to dateGraph of confirmed culture and RT-PCR tests by MMWR week, year to date	4
III. Rapid Antigen Tests <ul style="list-style-type: none">Table of positive rapid tests by county, current MMWR weekGraph of positive rapid tests by MMWR week, year to date	5
IV. Hospitalizations and Deaths <ul style="list-style-type: none">Table of influenza hospitalizations and deaths, year to dateGraph of influenza hospitalizations and deaths by MMWR weekGraph of influenza hospitalizations and deaths by age groupGraph of influenza hospitalizations and death case rates by age group	6
V. Hospital ED Syndromic Surveillance	9
VI. Description of SC influenza surveillance	12
VII. Influenza activity level definitions	13

*HHS Region 4 consists of Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, and Tennessee. The baseline is the mean percentage of patient visits for ILI during non-influenza weeks for the previous three seasons plus two standard deviations.

I. ILINet Influenza-Like Illness Surveillance

During MMWR week 45, ending November 14, 2009, 2.32% of patient visits to SC ILNet providers were due to ILI. This percentage is slightly above regional (2.0%) and national (2.3%) baselines. This compares to .52% this time last year. Reports were received from providers in 18 counties, representing all 8 regions. The percentage of visits ranged from 0% to 7.94%.

Percentage of Visits for Influenza-like Illness (ILI) Reported by Sentinel Providers in South Carolina, 2007-2008 and 2008-2009 Influenza Seasons



Reported Influenza-Like Illness by Sentinel Providers
November 8, 2009-November 14, 2009

County	ILI %	County	ILI %
Abbeville	NS	Greenwood	NS
Aiken	0%	Hampton	3.74%
Allendale	NS	Horry	1.31%
Anderson	3.23%	Jasper	NS
Bamberg	NS	Kershaw	NS
Barnwell	NS	Lancaster	NE
Beaufort	0%	Laurens	NS
Berkeley	7.94%	Lee	NE
Calhoun	NS	Lexington	2.73%
Charleston	3.58%	Marion	NS
Cherokee	NS	Marlboro	NS
Chester	NE	McCormick	NS
Chesterfield	NE	Newberry	NS
Clarendon	NS	Oconee	NS
Colleton	NS	Orangeburg	NS
Darlington	NS	Pickens	0%
Dillon	4.00%	Richland	2.31%
Dorchester	NS	Saluda	0%
Edgefield	NE	Spartanburg	1.22%
Fairfield	0.87%	Sumter	NS
Florence	1.38%	Union	NE
Georgetown	6.76%	Williamsburg	NS
Greenville	1.03%	York	NS
			4.50%

NS: No reports received
NE: No enrolled providers



Geographic Region	ILI %	# of Reporters
Upstate-Regions 1 -2	1.07	8
Midlands-Regions 3-5	1.90	8
Coastal-Regions 6-8	4.06	8

In the past week (11/8-11/14), BOL tested 153 specimens, 18 (11.7%) of which were positive. In the past week, 29 positive specimens were reported by clinical labs. Since October 4, 2009, 514 specimens tested have been positive for influenza.

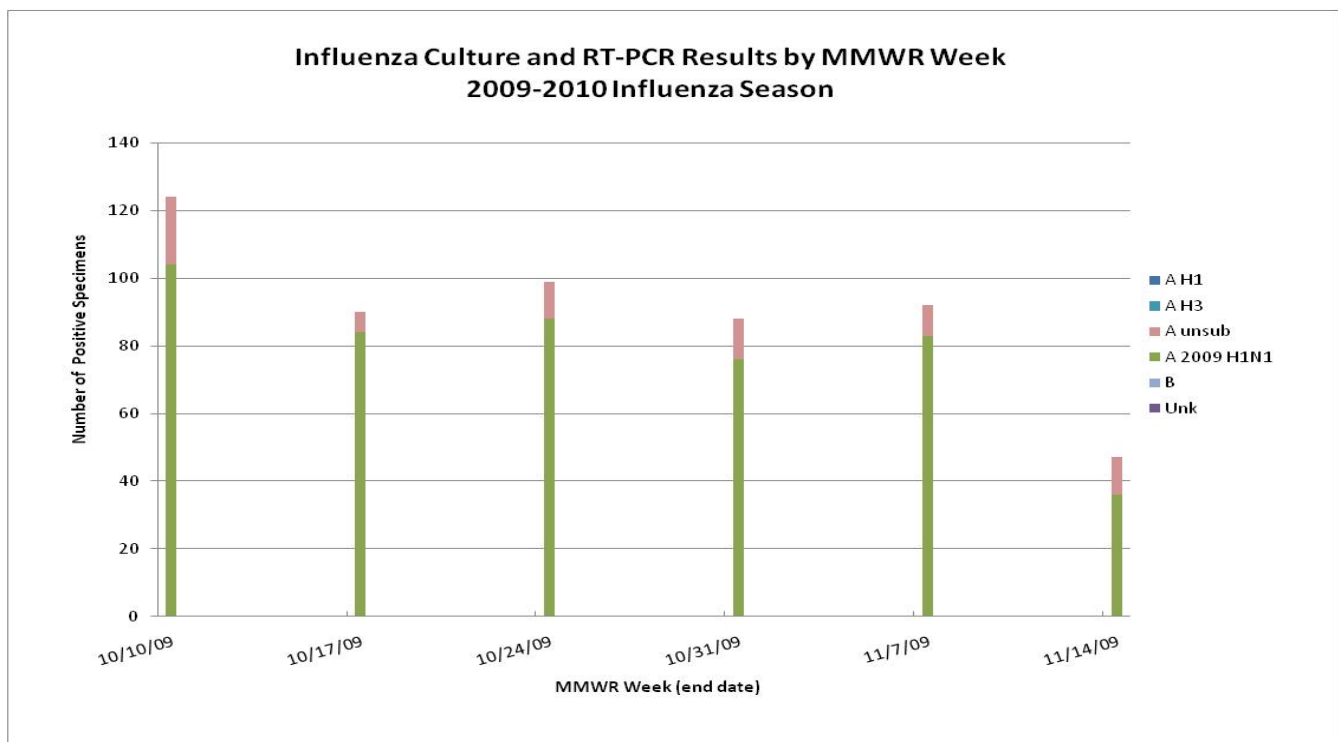
Positive confirmatory influenza test results Current MMWR Week (11/8/09-11/14/09)		
	BOL *	Other clinical labs
Number of specimens tested	153	-
Number of positive specimens	18 (11.7%)	29
Positive specimens by type/subtype		
A (H1)		
A (H3)		
A (unsubtyped)		11 (37.9%)
A (2009 H1N1)	18 (100%)	18 (62.1%)
Influenza B		
*Culture and/or RT-PCR (SC residents)		

Positive confirmatory influenza test results Cumulative (10/04/09-11/14/09)		
	BOL *	Other clinical labs
Number of specimens tested	929	-
Number of positive specimens	310 (33.4%)	230
Positive specimens by type/subtype		
Influenza A		
A (H3)		
A (unsubtyped)		69 (30 %)
A (2009 H1N1)	310 (100%)	161 (70%)
Influenza B		
Unk		
Other		
*Culture and/or RT-PCR (SC residents)		

Positive Confirmatory tests by County
October 4, 2009-November 14, 2009

County	Total	County	Total
Abbeville	1	Hampton	4
Aiken	11	Horry	27
Allendale		Jasper	2
Anderson	12	Kershaw	7
Bamberg	8	Lancaster	3
Barnwell	2	Laurens	2
Beaufort	64	Lee	7
Berkeley	11	Lexington	6
Calhoun		Marion	2
Charleston	29	Marlboro	1
Cherokee	5	McCormick	
Chester	6	Newberry	4
Chesterfield	5	Oconee	5
Clarendon		Orangeburg	8
Colleton	22	Pickens	5
Darlington	21	Richland	26
Dillon	3	Saluda	
Dorchester	12	Spartanburg	16
Edgefield	1	Sumter	5
Fairfield	1	Union	
Florence	30	Williamsburg	3
Georgetown	5	York	2
Greenville	29	Unknown	84
Greenwood	2		

*These data are provisional.



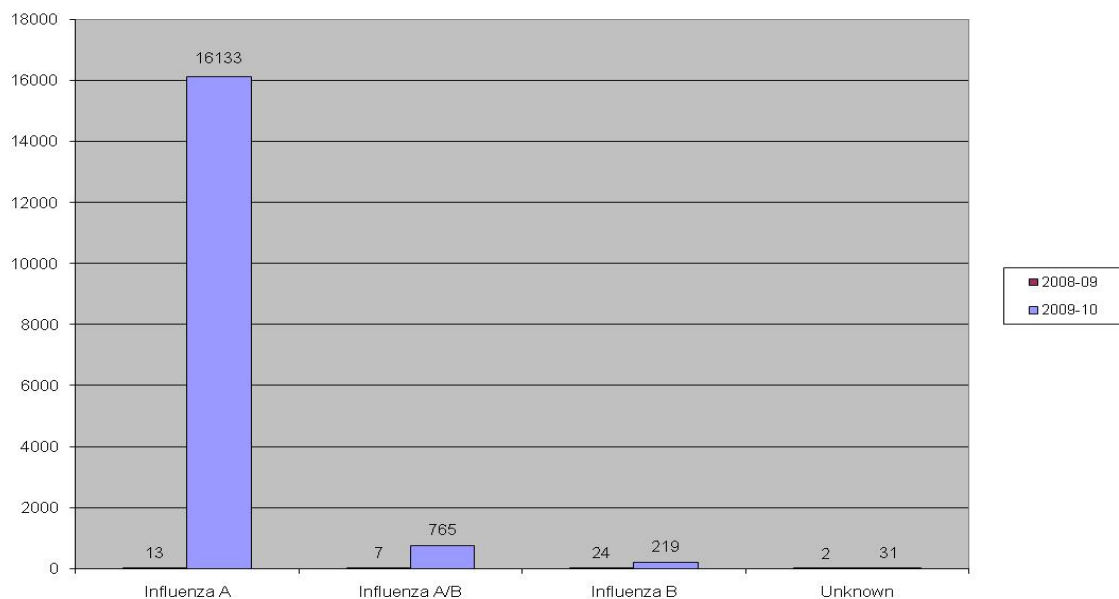
III. Positive Rapid Flu

There were 978 positive rapid antigen tests reported for the week ending November 14, 2009. Of these, 920 were influenza A, 44 were influenza A/B, and 14 were influenza B. Since October 4, 2009, 17,148 positive rapid antigen tests have been reported.

Positive Rapid Flu Tests by County
November 8, 2009-November 14, 2009

County	Positive Tests	County	Positive Tests
Abbeville		Greenwood	8
Aiken		Hampton	
Allendale		Horry	53
Anderson	50	Jasper	2
Bamberg		Kershaw	11
Barnwell		Lancaster	23
Beaufort	23	Laurens	2
Berkeley	13	Lee	2
Calhoun		Lexington	54
Charleston	76	Marion	
Cherokee	10	Marlboro	
Chester	10	McCormick	
Chesterfield	4	Newberry	6
Clarendon	3	Oconee	11
Colleton		Orangeburg	
Darlington	5	Pickens	23
Dillon		Richland	109
Dorchester		Saluda	
Edgefield		Spartanburg	49
Fairfield		Sumter	21
Florence	19	Union	1
Georgetown	21	Williamsburg	2
Greenville	218	York	91

Reported Positive Rapid Tests 2008-09 vs 2009-10
MMWR Weeks 40-44



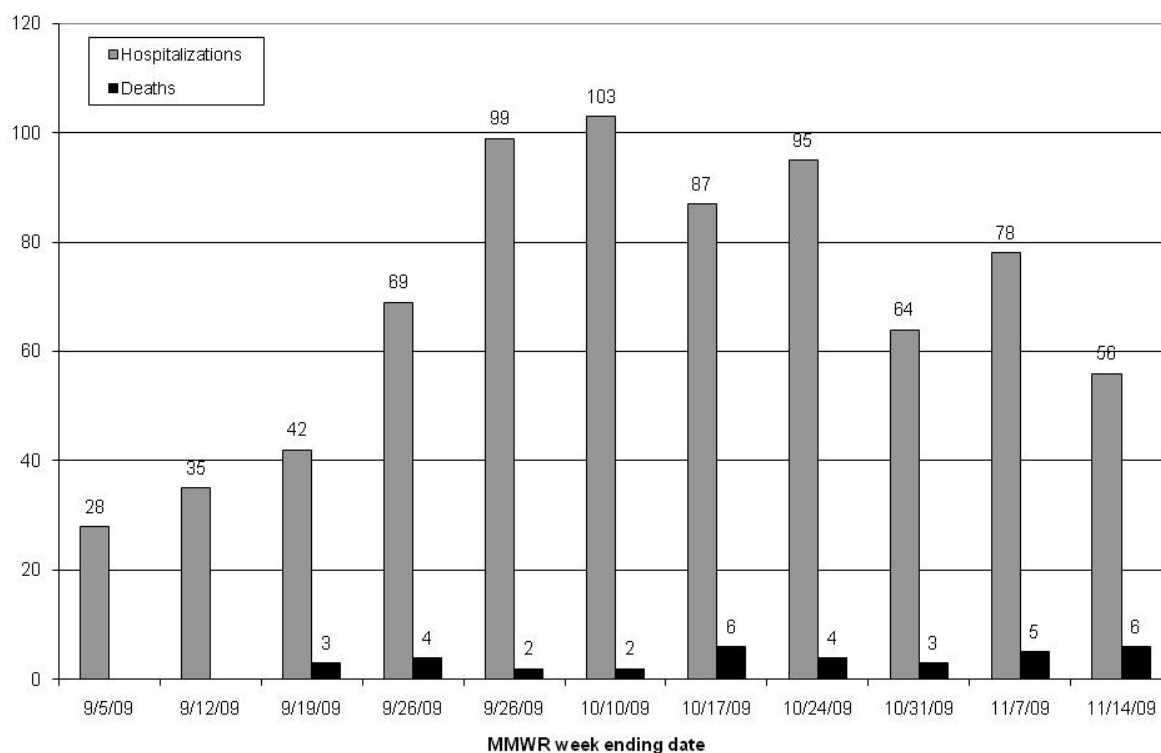
IV. Influenza hospitalizations and deaths

A total of 56 lab confirmed influenza hospitalizations were reported by 53 hospitals during the past week. 6 lab confirmed influenza deaths were reported. Since September 1, 2009, 756 lab confirmed hospitalizations and 35 lab confirmed deaths have been reported.

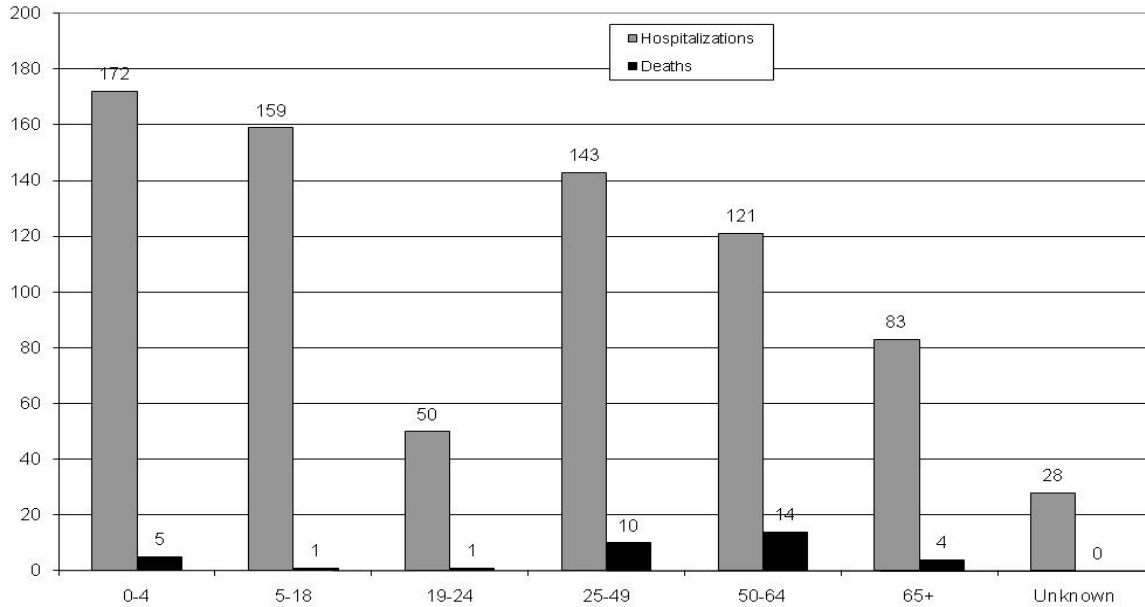
	Total number	
Number of Hospitals Reporting (current week)	53	
	<i>Previous MMWR (11/8-11/14)</i>	<i>Cumulative (since 9/1/09)</i>
Hospitalizations	56	756
Deaths	6	35

*These data are provisional

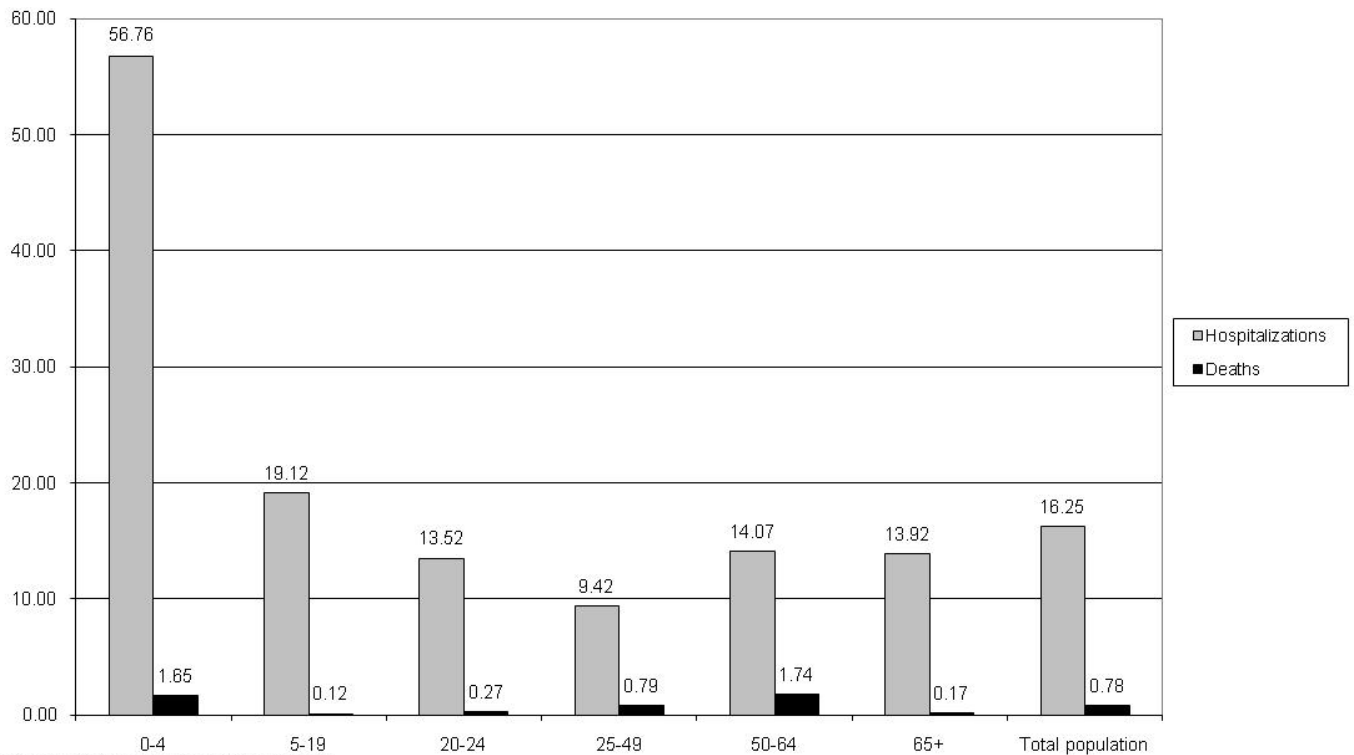
**Reported Cases of Laboratory Confirmed Influenza Hospitalizations and Deaths
by MMWR week
September 1, 2009 - November 14, 2009**



**Reported Cases of Laboratory Confirmed Influenza
Hospitalizations (n=756) and Deaths (n=35) by agegroup
September 1, 2009 - November 14, 2009**

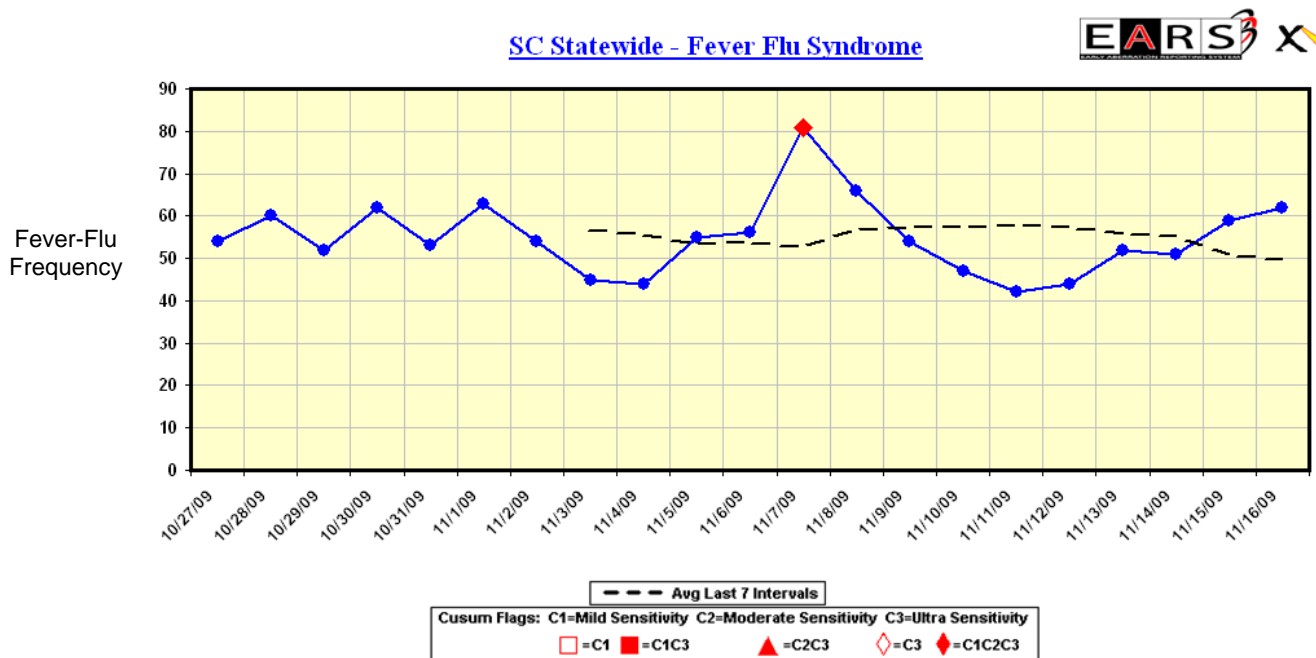


**Laboratory Confirmed Influenza Case rate/100,000
Hospitalizations (n=756) and Deaths (n=35) by agegroup
September 1, 2009 - November 14, 2009**



*Rate calculation excludes 28 hospitalizations and 1 death with missing age

Syndromic Report:



Cumulative Sums Analysis (CUSUM):

C1 = Flags because of sharp rise in counts from 1 day to the next

C2 = Flags because of aberrant, initial, rapid rise in counts and peak in counts

C3 = Flags because of a gradual rise in counts over a short time

The SC Statewide Fever Flu Syndrome graph above illustrates the daily counts of hospital emergency department visits with an Influenza-like Illness (ILI) for the past 21 days. A total of 11 hospital facilities are reporting to the SCAAN system. These nine include: Self Regional (Region 1); Palmetto Health Alliance (Region 2 & 3); Greenville Hospital System (Region 2); Medical University of South Carolina (Region 7); Roper (Region 7) and St. Francis (Region 7).

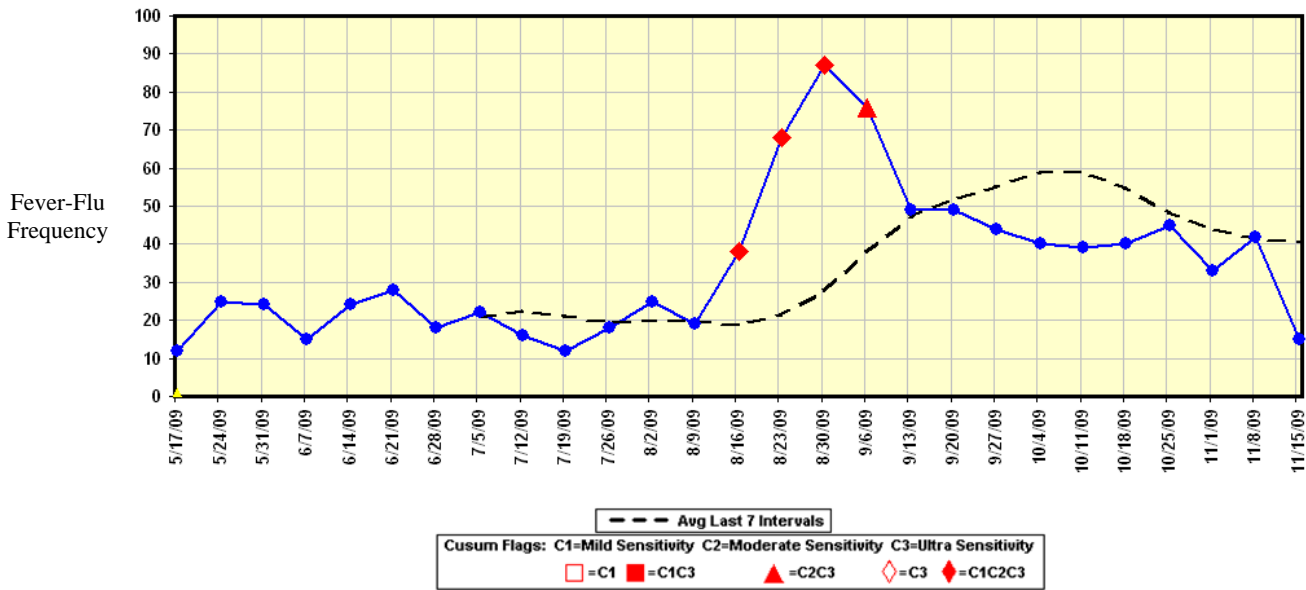
Statewide CUSUM Flag Alerts Description:

Please note: Data from one hospital in Region 2 was unavailable for analyses. Currently, we are working with that hospital to bring them back online.

There was a C1 (square-shaped) ping that occurred on 11/7/09 indicating a sharp rise from the mean of the past 7 days. There is an increasing trend in the frequency of fever-flu syndrome visits to emergency departments the past four days. There were no fever-flu alerts found by region for this week.

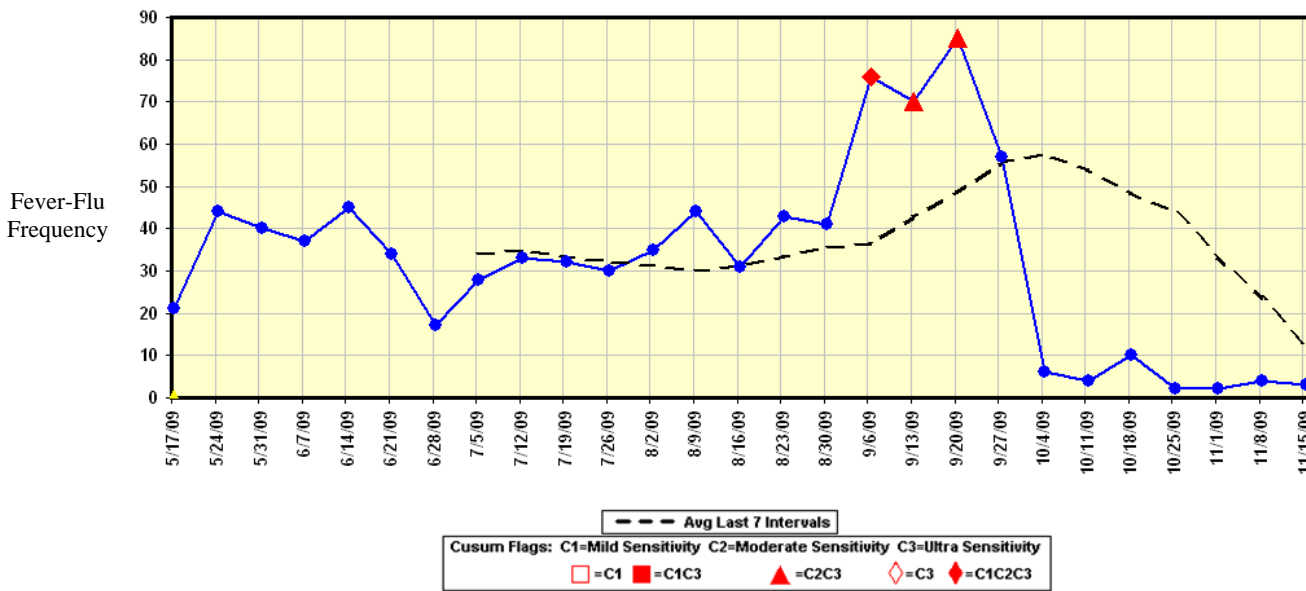
Below are the fever flu syndrome graphs by Region for the past 180 days (weekly interval).

Region 1 - Fever Flu Syndrome



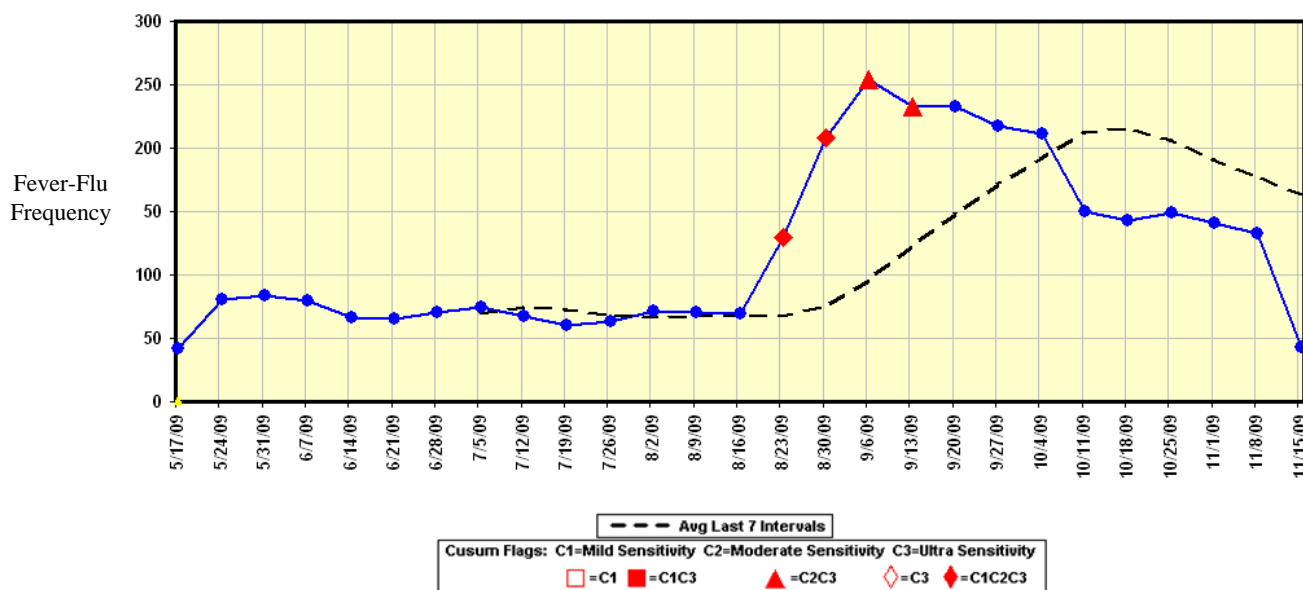
Region1 Hospitals (# of Facilities): Self-Regional (1)

Region 2 - Fever Flu Syndrome



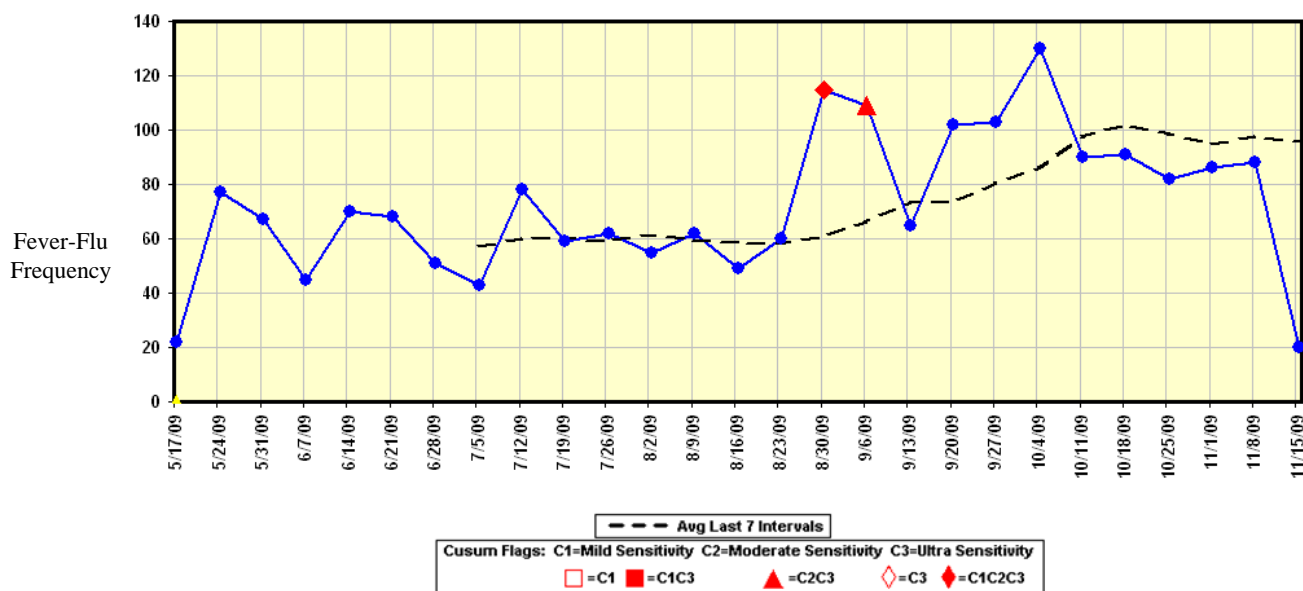
Region 2 Hospitals (# of Facilities): Greenville Hospital System (4); Palmetto Health Easley (1)

Region 3 - Fever Flu Syndrome



Region 3 Hospitals (# of Facilities): Palmetto Health Baptist (1), Palmetto Health Richland (1)

Region 7 - Fever Flu Syndrome



Region 7 Hospitals (# of Facilities): Medical University of South Carolina (1), Roper (1), St. Francis (1)

What does influenza surveillance in South Carolina consist of?

South Carolina influenza surveillance consists of mandatory and voluntary reporting systems for year-round influenza surveillance. These networks provide information on influenza virus strain and subtype and influenza disease burden.

South Carolina Influenza Surveillance Systems:

Mandatory reporting:

Positive Influenza Culture Reporting

Positive influenza culture results from commercial laboratories should be reported to DHEC within 7 days electronically via CHES or using a DHEC 1129 card.

Positive Rapid Antigen Test Reporting

DHEC requires weekly submission to the local health department of summary numbers of positive rapid influenza tests and influenza type identified. This should be reported by fax or email by **noon on Monday** for the preceding week.

Influenza death reporting

Lab confirmed influenza deaths, pediatric and adult, should be reported to DHEC within 7 days. These include results from viral culture, PCR, rapid flu tests, DFA, IFA or autopsy results consistent with influenza. Hospitals should report deaths to their regional health department by noon on Monday for the preceding week.

Influenza hospitalizations

DHEC now requires weekly submission of laboratory confirmed influenza hospitalizations. Hospitals should report these to their regional health department by **noon on Monday** for the preceding week.

Voluntary networks:

Laboratory Viral Isolate Network

Viral isolate surveillance is essential for identifying circulating influenza strain subtype information, and the identification of new strains that may need to be included in the next year's influenza vaccine. Participating providers receive culture media, packaging, processing and shipping labels in order to submit a subset of specimens to the Bureau of Labs (BOL).

Influenza-Like Illness (ILINet) Sentinel Providers Network

ILINet focuses on the number of patients presenting with influenza-like symptoms in the absence of another known cause. ILI is defined as fever (temperature of $\geq 100^{\circ}\text{F}$) plus a cough and/or a sore throat in the absence of another known cause. Providers submit weekly reports to the CDC of the total number of patients seen in a week and the subset number of those patients with ILI symptoms by age group.

For additional information about ILINet or to become an ILINet provider, contact the Acute Disease Epidemiology influenza surveillance coordinator at springcb@dhec.sc.gov.

South Carolina Aberration Alerting Network (SCAAN)

SCAAN is a collaborative network of syndromic surveillance systems within South Carolina. Currently our network contains the following data sources: SC Hospital Emergency Department (ED) chief-complaint data, Poison Control Center call data, Over-the-Counter (OTC) pharmaceutical sales surveillance, and CDC's BioSense Biosurveillance system. The hospital ED syndromic surveillance system classifies ED chief complaint data into appropriate syndrome categories (ex: Respiratory, GI, Fever, etc.). These syndrome categories are

then analyzed using the cumulative sum (CUSUM) methodology to detect any significant increases. The syndromic reports are distributed back to the hospital on a daily basis.

To join the SCAAN system or for more information, please contact: Himat Dhotre at 803-898-1588 or dhotrehc@dhec.sc.gov.

VII. Influenza Activity Levels

Activity Level	ILI activity/Outbreaks		Laboratory data
No activity	Low	And	No lab confirmed cases
Sporadic	Not increased	And	Isolated lab-confirmed cases
	OR		
	Not increased	And	Lab confirmed outbreak in one institution
Local	Increased ILI in 1 region; ILI activity in other regions is not increased	And	Recent (within the past 3 weeks) lab evidence of influenza in region with increased ILI
	OR		
	2 or more institutional outbreaks (ILI or lab confirmed) in 1 region; ILI activity in other regions is not increased	And	Recent (within the past 3 weeks) lab evidence of influenza in region with the outbreaks; virus activity is no greater than sporadic in other regions
Regional	Increased ILI in 2-3 regions	And	Recent (within the past 3 weeks) lab confirmed influenza in the affected regions
	OR		
	Institutional outbreaks (ILI or lab confirmed) in 2-3 regions	And	Recent (within the past 3 weeks) lab confirmed influenza in the affected regions
Widespread	Increased ILI and/or institutional outbreaks (ILI or lab confirmed) in at 4 of the regions	And	Recent (within the past 3 weeks) lab confirmed influenza in the state.